

In the Specification

Applicant presents replacement paragraphs below indicating the changes with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing.

Please replace paragraph 3 beginning on page 16 at line 25 as follows:

“Covalently fastened” means fastened via nothing other than one or more covalent bonds. E.g. a species that is covalently coupled, via 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide/N-hydroxysuccinimide (EDC/NHS) chemistry, to a carboxylate-presenting alkyl thiol which is in turn fastened to a gold surface, is covalently fastened to that surface.

Please rewrite the paragraph 2 on page 28 at line 6, as follows:

“Molecular wires” as used herein, means [wires] molecules that enhance the ability for a fluid encountering a [SAM-coded] SAM-coated electrode to communicate electrically with the electrode. This includes conductive molecules or, as mentioned above and exemplified more fully below, molecules that can cause defects in the SAM allowing fluid contact with the electrode. A non-limiting list of additional molecular wires includes 2-mercaptopyridine, 2-mercaptobenzothiazole, dithiothreitol, 1, 2-benzenedithiol, 1, 2-benzenedimethanethiol, benzene-ethanethiol, and 2-mercaptoethylether. Conductivity of a monolayer can also be enhanced by the addition of molecules that promote conductivity in the plane of the electrode. Conducting SAMs can be composed of, but are not limited to: 1) poly (ethynylphenyl) chains terminated with a sulfur; 2) an alkyl thiol terminated with a benzene ring; 3) an alkyl thiol terminated with a DNA base; 4) any sulfur terminated species that packs poorly into a monolayer; 5) all of the above plus or minus alkyl thiol spacer molecules terminated with either ethylene glycol units or methyl groups to inhibit non specific adsorption. Thiols are described because of their affinity for gold in ready formation of a SAM. Other molecules can be substituted for thiols as known in the art from U.S. Patent No. 5,620,820, and other references.

Please add the new paragraph at page 1, line 2, after the title as follows:

RELATED APPLICATIONS

This application is a continuation of U.S. patent application serial no. 09/602,778, filed 06/23/00, which is a continuation-in-part of International Pat. Apl. Ser. No. PCT/US00/01504, filed 01/21/00, which claims priority to U.S. provisional patent application serial nos. 60/116,975, filed 01/23/99; 60/132,289, filed 05/03/99; 60,133,148, filed 05/07/99, and 60/133,772, filed 05/12/99. U.S. patent application serial no. 09/602,778 also claims priority to U.S. provisional patent application serial no. 60/155,937, filed 09/24/99. Each of these applications is hereby incorporated by reference.